

In The Claims

This listing of claims will replace all prior versions, and listing, of claims in the application:

1. (currently amended) A method of formatting an optical recording medium, ~~stored therein with location of a supplementary spare area, said optical recording medium including a primary spare area, a supplementary spare area for replacing a defective unit with available replacement unit, and a defect management area including a defect management information for managing a defective area,~~ the method comprising:

(a) resetting ~~a the stored~~ location information of the supplementary spare area in response to a formatting request ~~the location information of the supplementary spare area indicating a location of the supplementary spare area on the optical recording medium and a size of the supplementary spare area to indicate at least that the supplementary spare area is not assigned,~~ wherein the supplementary spare area has a variable size and the defect management area further includes a location information indicating a position of a variable supplementary spare area; and

(b) formatting the optical recording medium in response to the formatting request at least to use the supplementary spare area as a user data area after formatting.

2. (previously presented) A method of claim 1, further comprising:
determining if a supplementary spare area has been assigned prior to said resetting step (a) and said formatting step (b), wherein said steps (a) and (b) are performed if a supplementary spare area has been assigned.

3. (previously presented) A method of claim 1, wherein said resetting step (a) comprises converting the location information of the supplementary spare area to a predetermined value.

4. (previously presented) A method of claim 3, wherein the predetermined value is a lowest value.

5. (previously presented) A method of claim 3, wherein the predetermined value is a highest value.

6. (previously presented) A method of claim 3, wherein the predetermined value is a specific code based upon a predetermined agreement.

7. (previously presented) A method of claim 1, wherein said formatting step (b) includes registering sectors judged to have defects into a new PDL (primary defect list), if the optical recording medium is to be formatted with certification.

8. (previously presented) A method of claim 1, wherein said formatting step (b) includes registering all sectors previously judged in an old SDL (secondary defect list) into a new PDL (primary defect list) if the optical recording medium is to be formatted without certification.

9. (currently amended) A method of claim 1, wherein the location information of the supplementary spare area is stored in a secondary defect list ~~SDL (secondary defect list) block~~ of the defect management area ~~a DMA (defect management area)~~ of the optical recording medium.

10. (currently amended) A method of claim 9, wherein the location information of the supplementary spare area includes start and end addresses of the supplementary spare area on the optical recording medium.

11. (previously presented) A method of claim 7, wherein said formatting step (b) further includes disposing an old SDL existed prior to said formatting step (b), if the optical recording medium is to be formatted with certification.

12. (previously presented) A method of claim 1, wherein said formatting step (b) reformats the optical recording medium by moving defective sectors registered in a first list to a second list.

13. (previously presented) A method of claim 12, wherein the first list and second list are, respectively, an SDL (secondary defect list) and a PDL (primary defect list) for the optical recording medium.

14. (currently amended) A method of formatting an optical recording medium, ~~the recording medium, said recording medium including a primary spare area, a supplementary spare area for replacing a defective unit with available replacement unit, and a defect management area including a defect management information for managing a defective area, [storing therein location information of a supplementary spare area]~~ the defect management information including a secondary information indicating a location of a defective unit and a location of a replacement unit, the method comprising:

receiving an instruction to format the recording medium;

resetting a ~~the~~ location information of the supplementary spare area in response to the instruction, ~~the location information of the supplementary spare area indicating a location of the supplementary spare area on the recording medium and a size of the supplementary spare area to indicate at least that the supplementary spare area is not assigned, wherein the~~

supplementary spare area has a variable size and the defect management area further includes a location information indicating a position of a variable supplementary spare area; and

transferring secondary defect information with a new PDL (primary defect list) of the defect management information ~~to format the recording medium~~ according to the instruction at least to use the supplementary spare area as a user data area after formatting.

15. (previously presented) A method of claim 14, wherein the transferring step includes the step of:

registering sectors judged to have defects into the new PDL if the recording medium is to be formatted with certification.

16. (previously presented) A method of claim 15, wherein the transferring step further includes the step of :

disposing an old SDL (secondary defect list) of the secondary defect information if the recording medium is to be formatted with certification.

17. (previously presented) A method of claim 14, wherein said transferring step includes the step of :

registering all sectors previously judged in an old SDL (secondary defect list) of the secondary defect information into a new PDL if the recording medium is to be formatted without certification.

18. (currently amended) A method of claim 14, wherein the location information of the supplementary spare area is stored in a secondary defect list ~~SDL (secondary defect list) block~~ of the defect management area ~~a DMA (defect management area)~~ of the recording medium.

19. (currently amended) A method of claim 18, wherein the location information includes of the supplementary spare area start and end addresses of the supplementary spare area on the recording medium.

20. (previously presented) A method of claim 14, wherein said resetting step includes the step of:

converting the location information of the supplementary spare area to a predetermined value.

21. (previously presented) A method of claim 20, wherein the predetermined value is a lowest value, a highest value, or a predetermined code.

22. (previously presented) A method of claim 14, wherein, after the receiving step, the resetting step is performed prior to the transferring step.

23. (previously presented) A method of claim 14, after the receiving step, the resetting step is performed prior to the resetting step.

24. (currently amended) A method of claim 1, wherein, ~~in the resetting step~~, the supplementary spare area ~~is assigned a variable size and~~ is located close to a lead-out area of the optical recording medium.

25. (canceled)

26. (canceled)

27. (currently amended) A method of claim 14, wherein, ~~in the resetting step~~, the supplementary spare area ~~is assigned a variable size and~~ is located close to a lead-out area of the recording medium.

28. (canceled)

29. (canceled)

30. (new) A method of formatting an optical recording medium, said recording medium including a primary spare area, a supplementary spare area for replacing a defective area with available replacement area which has a variable size, and a defect management area including a defect management information for managing a defective area, the defect management information including a first information to indicate a defect found at least during formatting, a second information to indicate a defective unit found at least after formatting, the second information further including a third information to indicate a location of the supplementary spare area, the method comprising:

checking if a command for formatting of the optical recording medium is received; and

changing the supplementary spare area to a user area to be written, if the command is received, while resetting the third information to indicate that the supplementary spare area is not assigned.

31. (new) A method of claim 30, wherein the optical recording medium is a DVD-RAM.

32. (new) A method of claim 31, wherein the first information corresponds to a PDL (primary defect list) and the second information corresponds to a SDL (secondary defect list)

33. (new) A method of claim 32, further comprising:

converting a location of a defective unit listed in the second information, to the first information.

34. (new) A method of claim 30, wherein the supplementary spare area is extended from a fixed location close to a lead-out area to a variable inner location of the recording medium.

35. (new) A method of claim 30, wherein the third information includes start and end addresses of the supplementary spare area on the optical recording medium.

36. (new) A method of claim 35, wherein the start address is fixed and is located close to a lead-out area of the recording medium, while the end address is varied and is moved toward an inner radius of the recording medium, upon the variance of the size of the supplementary spare area.

37. (new) A method of claim 35, wherein the start address is varied based on the variance with respect to the size of the supplementary spare area, while the end address is not varied.

38. (new) A method of claim 30, wherein the third information is reset to a value 00h to indicate that the supplementary spare area is not assigned, when the formatting is requested.

39. (new) A recording medium comprising:
a primary spare area for replacing a defect founded during a formatting of the recording medium;

a supplementary spare area for replacing a defective area found at least after formatting with an available replacement area, the supplementary spare area having a variable size; and

a defect management area including a defect management information for managing a defective area, the defect management information including a first information to indicate a defect found at least during formatting, and a

second information to indicate a defective unit found at least after formatting, the second information further including a third information to indicate a location of the supplementary spare area,

wherein the supplementary spare area is changed to a usable user area when formatting, while the third information is reset to indicate that the supplementary spare area is not assigned.

40. (new) A recording medium of claim 39, wherein the recording medium is a DVD-RAM.

41. (new) A recording medium of claim 40, wherein the first information corresponds to a PDL (primary defect list) and the second information corresponds to a SDL (secondary defect list).

42. (new) A recording medium of claim 41, wherein a location of a defective unit listed in the SDL is moved to the PDL.

43. (new) A recording medium of claim 39, wherein the supplementary spare area is extended from a fixed location close to a lead-out area to a variable inner location of the recording medium.

44. (new) A recording medium of claim 39, wherein the third information includes start and end addresses of the supplementary spare area on the recording medium.

45. (new) A recording medium of claim 44, wherein the start address is fixed and is located close to a lead-out area of the recording medium, while the end address is varied and is moved toward an inner radius of the recording medium, based upon the variance of the size of the supplementary spare area.

46. (new) A recording medium of claim 44, wherein the start address is varied based on the variance with respect to the size of the supplementary spare area, while the end address is not varied.

47. (new) A recording medium of claim 39, wherein the third information is reset to a value 00h to indicate that the supplementary spare area is not assigned, when the formatting is requested.